

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF :
GILLES M. GARNIER ET AL : ATTN: APPLICATION DIVISION
SERIAL NO: NEW U.S. APPLICATION :
FILED: HERewith :
FOR: SOUNDPROOFING LAMINATED
WINDOW FOR VEHICLES

PRELIMINARY AMENDMENT

ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231

SIR:

Prior to examination on the merits, please amend this application as follows:

IN THE SPECIFICATION

Page 7, lines 7-14, delete the text in the entirety and insert therefor:

The window according to the invention is preferably designed to ensure soundproofing of a vehicle and in particular soundproofing against noises of structure-borne origin, and is made of a laminated window comprising at least one glass sheet and one intermediate film having a loss factor $\tan \delta$ greater than 0.6 and a shear modulus G' smaller than 2×10^7 N/m² in a temperature range between 10 and 60°C, in a frequency range between 50 and 10,000 Hz. These measurements of the dynamic characterization of the material are performed on a viscoanalyzer, for example a Metravib viscoanalyzer, under measurement conditions to be defined hereinafter.

Page 10, lines 7-8, delete the text in the entirety and insert therefor:

According to an advantageous embodiment of the invention, the shear modulus G' of the intermediate film imparting noise-damping properties is between 10^6 and 2×10^7 N/m².

IN THE CLAIMS

Please cancel Claims 1-18 without prejudice and insert therefor new Claims 19-35 without prejudice:

19. (New) A laminated window comprising a glass sheet and an intermediate film, wherein said film has a loss factor $\tan \delta$ greater than 0.6 and a shear modulus G' smaller than 2×10^7 N/m² in a temperature range between 10 and 60°C and in a frequency range between 50 and 10,000 Hz.

20. (New) The laminated window of Claim 19, wherein said intermediate film is associated with at least one film of normal acoustic performance.

21. (New) The laminated window of Claim 19, wherein the intermediate film is a thermoplastic acrylic polymer film 0.05 to 1.0 mm thick, and wherein this film is joined to a glass sheet with interposition of a polyester film 0.01 to 0.1 mm thick, and a thermoplastic cement film 0.3 to 0.8 mm thick.

22. (New) The laminated window of Claim 21, comprising two glass sheets each of which are respectively joined to the thermoplastic acrylic film by said thermoplastic cement film and a polyester film.

23. (New) The laminated window of Claim 19, further comprising a thermoplastic cement film, a polyester film interposed between the thermoplastic cement film and the intermediate film, and a polyester film juxtaposed on the other face of the intermediate film and provided on its free surface with an abrasion-resistant layer.

24. (New) The laminated window of Claim 19, wherein the intermediate film comprises viscoelastic polymer made of acrylic polymer without plasticizer having a shear modulus G' between $10^{4.5}$ Pa at 60°C and $10^{6.5}$ Pa at 0°C as well as a loss factor $\tan \delta$ between approximately 0.8 and 1 in a temperature range of 0 to 60°C .

25. (New) The laminated window of Claim 20, wherein the intermediate film comprises viscoelastic polymer made of acrylic polymer without plasticizer having a shear modulus G' between $10^{4.5}$ Pa at 60°C and $10^{6.5}$ Pa at 0°C as well as a loss factor $\tan \delta$ between approximately 0.8 and 1 in a temperature range of 0 to 60°C .

26. (New) The laminated window of Claim 21, wherein the intermediate film comprises viscoelastic polymer made of acrylic polymer without plasticizer having a shear modulus G' between $10^{4.5}$ Pa at 60°C and $10^{6.5}$ Pa at 0°C as well as a loss factor $\tan \delta$ between approximately 0.8 and 1 in a temperature range of 0 to 60°C .

27. (New) The laminated window of Claim 22, wherein the intermediate film comprises viscoelastic polymer made of acrylic polymer without plasticizer having a shear modulus G' between $10^{4.5}$ Pa at 60°C and $10^{6.5}$ Pa at 0°C as well as a loss factor $\tan \delta$ between approximately 0.8 and 1 in a temperature range of 0 to 60°C .

28. (New) The laminated window of Claim 23, wherein the intermediate film comprises viscoelastic polymer made of acrylic polymer without plasticizer having a shear modulus G' between $10^{4.5}$ Pa at 60°C and $10^{6.5}$ Pa at 0°C as well as a loss factor $\tan \delta$ between approximately 0.8 and 1 in a temperature range of 0 to 60°C .

29. (New) The laminated window of Claim 21, wherein said polyester film is a polyethylene terephthalate film.

30. (New) The laminated window of Claim 19, wherein one of the layers of the laminated window is provided with a layer that reflects infrared radiation.

31. (New) A film designed to be used as an intermediate layer in a soundproofing laminated window, said film having a loss factor $\tan \delta$ greater than 0.6 and a shear modulus G' smaller than $2 \times 10^7 \text{ N/m}^2$ in a temperature range between 10 and 60°C and in a frequency range between 50 and 10,000 Hz.

32. (New) The film of Claim 31, wherein said film is associated with at least one film of normal acoustic performance.

33. (New) The film of Claim 32, wherein said film is a thermoplastic acrylic polymer film 0.05 to 1.0 mm thick, and wherein said film is joined to at least one glass sheet with interposition of a polyester film 0.01 to 0.1 mm thick and a thermoplastic cement film 0.3 to 0.8 mm thick.

34. (New) The film of Claim 33, wherein the thermoplastic film comprises viscoelastic polymer made of acrylic polymer without plasticizer having a shear modulus G' between $10^{4.5} \text{ Pa}$ at 60°C and $10^{6.5} \text{ Pa}$ at 0°C, as well as a loss factor $\tan \delta$ between approximately 0.8 and 1 in a temperature range of 0 to 60°C.

35. (New) The film of Claim 31, wherein said film comprises plasticizers and polyvinylacetal resins.

36. (New) A method of acoustically attenuating noises of structure-borne origin in an article of manufacture, which comprises installing therein the laminated window of Claim 19.

37. (New) The method of Claim 36, wherein said article of manufacture is a vehicle.

38. (New) The method of Claim 36, wherein said vehicle is an automobile.

39. (New) The method of Claim 36, wherein said vehicle is a train.

40. (New) The method of Claim 36, wherein said article of manufacture is a building.

REMARKS

Claims 1-18 have been canceled.

New Claims 19-40 have been added and are now active in this case.

Applicants have amended the claims to clarify the present invention. All of the above amendments are fully supported by the claims and disclosure as originally filed.

Additionally, Applicants have amended the claims and specification to clarify that the units "N/cm²" are correctly --N/m²--.

The reasons for this change and the support therefor are as follows.

First, the international unit for shear modulus G' is Pa which is N/m².

Second, the example provided in the present specification at page 9 (see lines 10-19) corresponds to Claims 1, 7 and 9 written in Pa.

Third, the measurements in the shear modulus G' are performed on a viscoanalyzer such as a Metravib viscoanalyzer which provides measurements in N/m². See the extract of a notice of the Metravib viscoanalyzer mentioning the units of N/m² of the spring modulus E equivalent to the shear modulus G' , submitted in parent application S.N. 09/488,674.

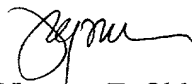
Finally, it would be impossible in any event to describe and claim an amount of 2×10^7 N/cm², because 2×10^7 N/cm² is equal to 2×10^{11} N/m², which is much greater than 7×10^7 N/m², which is the value of the rigidity of the glass, which would mean that a material such as glass having a shear modulus smaller than 2×10^7 N/cm² would meet the claimed condition for being sufficiently rigid. If such a glass were this rigid, there would be no commercial interest at all in using an intermediate film.

Hence, in view of all of the above, it is believed that the present application is now in condition for examination on the merits.

Favorable consideration is earnestly solicited.

Respectfully submitted,

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According to an advantageous embodiment of the invention, the shear modulus G' of the intermediate film imparting noise-damping properties is between 10^6 and 2×10^7 N/m².

IN THE CLAIMS

Claims 1-18 (Canceled).

Claims 19-40 (New).